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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/081,609 | 02/20/2002 | Duncan Boniface | CEL1.0020 | 9556 |

7590 03/31/2004

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EXAMINER

ENSEY, BRIAN

| ART UNIT | PAPER NUMBER |
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2643

DATE MAILED: 03/31/2004

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,609

Applicant(s)

BONIFACE, DUNCAN

Examiner

Brian Ensey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-25 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6, 16, 17, 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ssutu U.S. Patent No. 6,535,613.

Regarding claim 1 (amended), Ssutu discloses a pole piece (24) for a loudspeaker assembly, comprising: a cylindrical body (92) having an end face; said end face having a blind recess with an interior circumferential wall; and said circumferential wall having inwardly directed heat-dissipating ribs (See Figs. 2 and 6 and col. 6, lines 22-44). Ssutu does not expressly disclose the cylindrical body is part of the pole piece. However, the cylindrical body is integrally mounted in the pole piece to form a single unit. It would have been obvious to one of ordinary skill in the art at the time of the invention that the integrally formed pole piece provides cooling through heat dissipating ribs in contact with the pole piece and formed on the cylindrical body.

Regarding claim 2 (originally presented), Ssutu further discloses said body has a longitudinal axis; and said ribs are aligned with said longitudinal axis (See Figs. 2 and 6).

Regarding claim 3 (originally presented), Ssutu further discloses said ribs are equispaced around said circumferential wall (See Figs. 2 and 6).

Regarding claim 4 (originally presented), Ssutu further discloses said body has a longitudinal axis; and said ribs are evenly spaced about said longitudinal axis (See Figs. 2 and 6).

Regarding claim 5 (originally presented), Ssutu further discloses a circumferential mark to space ratio of said ribs to gaps therebetween is approximately 1:1 (See Figs. 2 and 6).

Regarding claim 6 (originally presented), Ssutu further discloses said ribs define gaps therebetween; said ribs have a given width; said gaps have a set width; and a ratio of said given width to said set width is substantially 1:1 (See Figs. 2 and 6).

Regarding claim 16 (originally presented), Ssutu does not expressly disclose said cylindrical body is forged. However, forging of structural parts of speaker magnetic circuits is well-known in the art and it would have been obvious to one of ordinary skill in the art at the time of the invention to forge the structural components for easier and cheaper manufacturing.

Regarding claim 17 (originally presented), Ssutu further discloses ribs extend radially inward from said circumferential wall (See Figs. 2 and 6).

Regarding claim 22, Ssutu discloses a loudspeaker assembly, comprising: a housing (14); a diaphragm (16) supported by said housing; a moving coil (36) coupled to said diaphragm; a permanent magnet (26) encircling said coil; a cylindrical body having an end face communicating with ambient atmosphere; said cylindrical body (92) at least partially disposed within said coil; and said end face having a blind recess with a circumferential wall having inwardly directed heat-dissipating ribs (See Figs. 2 and 6 and col. 6, lines 22-44). Ssutu does not expressly disclose the cylindrical body is part of the pole piece. However, cylindrical body is integrally mounted in the pole piece to form a single unit. It would have been obvious to one of ordinary skill in the art at the time of the invention that the integrally formed pole piece provides cooling through heat dissipating ribs in contact with the pole piece and formed on the cylindrical body.

Regarding claim 26 (amended), Ssutu discloses a housing (14); a diaphragm (16) supported by the housing, a moving coil (36) coupled to the diaphragm, a permanent magnet (26) encircling the coil, a head piece (92) comprising: a cylindrical body having an end face communicating with ambient atmosphere; said cylindrical body at least partially disposed within the coil; and said end face having a blind recess with a circumferential wall having inwardly directed heat-dissipating ribs (See Figs. 2 and 6 and col. 6, lines 22-44). Ssutu does not expressly disclose the head piece is part of the pole piece. However, the cylindrical body is integrally mounted in the pole piece to form a single unit. It would have been obvious to one of ordinary skill in the art at the time of the invention that the integrally formed pole piece provides cooling through heat dissipating ribs in contact with the pole piece and formed on the cylindrical body.

Claims 7-15 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ssutu as applied to claim 1 above, and further in view of Button U.S. Patent No. 4,933,975.

Regarding claims 7-15 and 18-20, Ssutu does not expressly disclose structural variations of tapered ribs with regards to the inwardly directed heat-dissipating ribs. However, the use of tapered heat-dissipating ribs is well-known in the art and Button teaches tapered heat-dissipating ribs (132) for increased cooling surface area. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a variety of structural variation in tapered said circumferential wall and heat-dissipating ribs tapered in a shape corresponding to a taper of said circumferential wall for increased cooling abilities.

Claims 21 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ssutu in view of Button. U.S. Patent No. 4,933,975.

Regarding claim 21 (amended), Ssutu discloses a pole piece (24) for a loudspeaker assembly, comprising: a forged cylindrical body (92) having an end face; said end face having a blind recess; and inwardly directed heat-dissipating ribs. Ssutu does not expressly disclose said blind recess having a tapered circumferential wall decreasing in diameter away from said end face; and said circumferential wall having inwardly directed heat-dissipating ribs tapered in a shape corresponding to a taper of said circumferential wall. However, the use of tapered heat-dissipating ribs is well-known in the art and Button teaches tapered heat-dissipating ribs (132) for increased cooling surface area. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a tapered said circumferential wall and heat-dissipating ribs tapered in a shape corresponding to a taper of said circumferential wall for increased cooling ability.

Regarding claim 23 (originally presented), Ssutu further discloses a portion of said head piece having said ribs is substantially co-extensive with said coil (See Figs. 2 and 6 and col. 6, lines 22-44).

Regarding claim 24 (originally presented), Ssutu further discloses the circumferential wall has a wall span; said coil has a travel path; and said wall span is disposed substantially within said travel path (See Figs. 2 and 6 and col. 6, lines 22-44).

Regarding claim 25 (amended), Ssutu discloses loudspeaker assembly, comprising: a housing (14); a diaphragm (16) supported by said housing; a moving coil (36) having a travel path; said moving coil coupled to said diaphragm; a permanent magnet (26) encircling said coil; a forged cylindrical body (92) having an end face communicating with ambient atmosphere; said pole piece (24) at least partially disposed within said coil; and inwardly

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directed heat-dissipating ribs. Ssutu does not expressly disclose said end face having a blind recess with a tapered circumferential wall decreasing in diameter away from said end face; said circumferential wall having inwardly heat-dissipating ribs tapered in a shape corresponding to a taper of said circumferential wall; and said circumferential wall having a wall span disposed substantially within said travel path. However, the use of tapered heat-dissipating ribs is well-known in the art and Button teaches tapered heat-dissipating ribs (132) for increased cooling surface area. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a tapered said circumferential wall and heat-dissipating ribs tapered in a shape corresponding to a taper of said circumferential wall for increased cooling ability.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 703-305-7363. The examiner can normally be reached on Mon-Fri: 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9306, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BKE
March 23, 2004


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
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